

Notice of Allowability

Application No.

10/800,691

Examiner

ARISTOCRATIS FOTAKIS

Applicant(s)

VOGLEWEDE, PAUL EDWARD

Art Unit

2611

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/09/2008.
2. ☒ The allowed claim(s) is/are 1 - 51 and 54 - 61.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date ____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

DETAILED ACTION

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr Mark C. Comtois on June 18, 2008.

The application has been amended as followed:

In Claim 38, Lines 1 – 4, the limitation "***A hopping frame embodied in a computer-readable medium for transmitting data in a multiple-modulation indice continuous phase modulation waveform with frequency hopping, comprising: a predetermined number of symbol periods;***" should be replaced by "***A method for transmitting data in a multiple-modulation indices continuous phase modulation waveform with frequency hopping, comprising the steps of:***".

In Claim 38, Line 5, the limitation "a *first sequence*" should be replaced by "*generating a first sequence*".

In Claim 38, Line 8, the limitation "a *second sequence*" should be replaced by "*generating a second sequence*".

In Claim 38, Line 13, the limitation "the fixed number" should be replaced by "a predetermined number".

In Claims 39 - 51, Line 1, the limitation "The hopping frame" should be replaced by "*The method*".

In Claim 42, Line 1, the limitation "further comprising" should be replaced by "*further comprising the steps of*".

In Claim 42, Line 2, the limitation "a *third sequence*" should be replaced by "*generating a third sequence*".

In Claim 42, Line 6, the limitation "the fixed number" should be replaced by "the predetermined number".

Allowable Subject Matter

Claims 1 – 51 and 54 - 61 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Re independent claim 1, the prior art of record does not disclose of a method of transmitting data as a continuous phase modulation waveform with a set of modulation indices and frequency hopping, comprising the steps of: modulating a fixed frequency carrier with the sequence of symbols for each hopping frame with a repeated sequence comprised of the set of modulation indices; and, transmitting the modulated hopping frame; wherein the carrier frequency for successive hopping frames are different, thereby enabling frequency hopping transmission of the data as a continuous phase modulation waveform.

Re independent claim 6, the prior art of record does not disclose of a method of receiving a data signal transmitted as a continuous phase modulation waveform with a set of modulation indices over a series of different frequencies, wherein the data signal is comprised of a plurality of hopping frames, comprising the steps of: demodulating one of the hopping frames at a determined frequency and phase offset with a repeated sequence formed from the set of modulation indices to obtain a set of demodulated data symbols and a set of demodulated other symbols for each frame; (iii) for a successive

hopping frame, transitioning the receiver to a different frequency over a transition period thereby enabling the reception of the transmitted data.

Re independent claim 38, the prior art of record does not disclose of a method for transmitting data in a multiple-modulation indice continuous phase modulation waveform with frequency hopping, comprising the step of: generating a second sequence of trellis coded symbols, wherein the number of symbols in the second sequence is equal to the constraint length defined by the multiple modulation indices and wherein the second sequence brings the phase state at the end of the second sequence to zero and the first symbol of the second sequence is adjacent to the last symbol of the first sequence, wherein the number of symbols in the first and second sequence combined are not greater than a predetermined number of symbol periods.

Re independent claim 54, the prior art of record does not disclose of a system for improving the ECCM capabilities of a multiple modulation indices continuous phase modulation waveform communication system comprising demodulating means for demodulating the data packets at a predetermined frequency and phase offset with a repeated sequence formed from a set of modulation indices thereby forming a set of demodulated symbols; and, switching means for switching the frequency of the demodulating means to a different frequency for each successive data packet over a predetermined transition period.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARISTOCRATIS FOTAKIS whose telephone number is (571)270-1206. The examiner can normally be reached on Monday - Thursday 6:30 - 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aristocratis Fotakis/

Examiner, Art Unit 2611

/Chieh M. Fan/

Supervisory Patent Examiner, Art Unit 2611